Is Environmental, Social and Governance (ESG) Disclosure Value Enhancing? Evidence from Top 100 Companies

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ABSTRACT

Embracing environmental, social, and governance (ESG) megatrend among Malaysian firms is becoming crucial as ESG compliance and disclosure are still in the infancy stage, especially after the coronavirus disease (COVID-19) outbreak. Aligned with the government's initiatives, this study examined the effects of ESG disclosure on firm performance. Using 180 firm-year observations from the top 100 firms listed on Bursa Malaysia from 2018 to 2021, we found that the ESG score boosted firm performance, as its disclosure attracted investor confidence and indirectly increased investment and firm performance. However, it was discovered that controversies provide a positive signal to investors in emerging countries as it improved their firm performance; further analysis was conducted to investigate which ESG pillars had a positive effect on the firm performance. The social pillar was associated with higher firm performance as it can influence workplace culture and indirectly increase firm performance. Contrasting findings were also found on the governance pillar on firm performance which indicated that governance did not improve firm performance directly, but good governance may contribute to better ESG investment and disclosure. Indirectly, it can improve firm performance. This study adds important evidence on the effects of ESG pillars and ESG controversies on firm performance.

Keywords: Environmental Social Governance (ESG), firm performance, sustainability

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INTRODUCTION

Organisations and socially conscious societies are becoming increasingly interested in environmental, social, and governance (ESG) reporting. Stakeholders and fund managers perceive that companies that disclose significant amounts of ESG information perform better operationally, generate higher returns, and have lower firm-specific risk (Wasiuzzaman et al., 2022). In a similar vein, Porter et al. (2019) also discovered that ESG disclosures are linked to a company's competitive advantage as the company offers environmentally and socially responsible solutions. Also, businesses can reframe their product offers to better meet societal demands, for improved environmental protection and quality of life, by engaging in ESG operations.

ESG is characterised as a company's duty to advance social welfare and ensure long-term, sustainable wealth for all stakeholders (Jamali et al., 2017; Naeem et al. 2022). ESG can be used by existing and potential socially-conscious investors to screen potential investments. The environmental criteria consider a company's environmental protection efforts, such as corporate climate change policies. Meanwhile, the management of relationships with customers, suppliers, employees, and the communities in which it operates is examined under the social criteria. Accordingly, leadership, executive compensation, audits, internal controls, and shareholder rights are all topics covered by governance (Huang, 2021; Khan, 2022).

ESG is a non-financial score that measures a company's ESG reporting practices. The company's annual reports and corporate social reporting (CSR) documents are used to produce the ESG score, which is scored from 0 to 100 and is based on quantitative and policy-related data (Shaikh, 2022). Recent years have seen a significant uptick in interest in ESG investment, driven by both domestic and foreign investors. Prior studies indicate that while poorly disclosed ESG is a sign of idiosyncratic risks, investors reward good ESG enterprises (Mohammad & Wasiuzzaman, 2021). However, the absence of ESG transparency by businesses may lead to poorly chosen investments in risky industries which could harm the workplace environment or employees' rights. Hence, investors will be aided in making judgments based on total performance rather than just financial success if ESG is incorporated into a firm's investment decision (Jamali et al, 2017; Turban and Greening, 1997; Bhandari et al., 2022).

Companies in Malaysia were the subject of this research. Malaysia is an important sample for ESG research because Malaysian companies started using their first corporate social reporting (CSR) framework in 2006. In 1987, Malaysia's first report on sustainable development was released (Mohammad & Wasiuzzaman, 2021). The CSR reporting framework – which became mandatory for all Malaysian-listed firms in 2006, and the Sustainability Framework, which started requiring ESG disclosures from businesses in 2015 – have further bolstered the effort.

Mohammad and Wasiuzzaman (2021) examined the effects of ESG disclosure on firm performance for Malaysian-listed firms moderated by firm competitive advantage. Consistent evidence was revealed where, in Malaysia, a one-unit increase in ESG disclosure can boost business performance by approximately 4%. The increase in shareholder activism has led to a focus on non-financial ESG disclosures in the companies' annual reports, which will aid in a better understanding of how ESG disclosure activities drive firm value. The evidence offered by Mohammad and Wasiuzzaman (2021) points out that a company's sustainability efforts may enable it to manage resources more effectively and conduct business successfully while solving societal problems. ESG disclosure in Malaysia, in contrast to other studies, was found to provide higher value to shareholders and is not just to achieve market approval. Lee and Isa's (2023) results also indicates a positive relationship between ESG practices and firm performance, indicating that ESG practises can increase business value.

Using the dataset of 47 businesses that were listed on the FTSE4G Bursa Malaysia between 2014 and 2017, Sani et al. (2020) indicated that there is no meaningful correlation between ESG parameters and firm value or profitability in businesses that regularly publish sustainability reports. Yet, the outcome shows that for businesses that have continuously listed on FTSE4G Bursa Malaysia, there is a significant and favourable association between ESG parameters and firm value. This suggests that the businesses had improved their reputation and earned a competitive edge, whether or not they consistently published sustainability reports.

Research has demonstrated that including ESG factors in a company's valuation model enhances non-financial metrics like stakeholder satisfaction, market acceptance, cost of debt, and social values. Hence, a company's competitive edge may increase as time goes by (Schramade & Schoenmaker, 2018; Mohammad & Wasiuzzaman, 2021). Examining the consequences of nonmarket transnational sustainability strategy on the firm's operational effectiveness, profitability, and market consideration is the research problem at hand. Since non-financial voluntary disclosures, such as corporate social responsibility and/or global reporting activities, are a focus of the study, it strives to give key quantitative proof of a firm's sustainability reporting. There are two research questions: (i) Does ESG compliance affect how well a company performs? and (ii) Does ESG practices enhance the value and profitability of the company?

This study contributes to the area of ESG in a number of ways. ESG is a mechanism for businesses to implement their CSR principles while choosing investments. Evidence indicates that ESG would enhance firm performance. Accordingly, by understanding this effect, firms would be encouraged to become actively involved in ESG disclosure. Indirectly, investors and other stakeholders would also benefit from this action. According to Sparkes and Cowton (2004), leaders of a company should adopt the principles of their most influential investors because if these investors support socially responsible investments, it is likely that social issues will be included on the firm's agenda. Consideration of environmental, social, and governance (ESG) inputs is one technique to complement the firm's method of investing through the standard quantitative financial analysis (Kenzhebulatov, 2022).

With the pace of innovation picking up, the business case for sustainability becomes more compelling and presents prospects for enhanced profitability and favourable brand impact. In fact, the body of research indicating the negative effects of disregarding the environment, and society's effects on long-term corporate growth and profitability is growing. Businesses can increase their profitability by better controlling risk and running more effectively.

The remainder of the paper is organised as follows. The introduction and motivation for the study are given in Section 1 which then moves on to discuss ESG practice and firm performance. Then, in Section 2, the literature evidence is presented. Following it is the method, data sources, and initial analysis of Section 3, the results and robustness check summarised in Sections 4, the debate, discussion, and conclusion presented in Section 5, and the suggestion for future research outlined in the final part.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

In order to understand the effects of ESG in enhancing a firm's performance, this study focuses on two competing normative theories as debated by numerous researchers. These theories are the Resource-based Views and the Stakeholders' Theory which will act as the theoretical lens in this study. This is motivated by Freeman et al. (2021) that urged researchers to merge the Resource-based View and the Stakeholder Theory by Barney (1991) in their research. The resource-based viewpoint (RBV) was developed to have sustainable competitive advantages through the utilization of strategic capital. According to Barney (1991), in the RBV, the acquisition of resources is important because resources are valuable, rare, inimitable, and hard to substitute for resources that have the capacity to attain high performance, create competitive advantages, and have a major impact on the firm's sustainability.

In addition to competitive advantage, stakeholder connections are considered while thinking about sustainability. Without sustainable stakeholder connections, sustainable competitive advantage cannot be attained (Freeman et al., 2021). Hence, in this study it was believed that making all firms sustainable can be achieved by building sustainable stakeholder relationships to enhance a firm's firm performance through their environmental, social, and governance (ESG) practices. This is consistent with the Stakeholder Theory that stated firms' engagement in CSR initiatives to pursue social goals, mitigate the managers' opportunistic behaviour, and maximize stakeholders' wealth. A recent empirical study examined the association between ESG and financial performance for large firms as well as small to medium enterprises (SMEs) and found that improving a firm's ESG performance is beneficial to all stakeholders of large firms in the long run, except for SME companies (Gholami et al., 2022). Based on the Stakeholder and Legitimacy Theory, Minutolo et al. (2019) investigated the

ESG ratings of the Standard & Poor's (S&P) 500 companies from the years 2009 to 2015. The authors claimed that increased levels of transparency improve business value and enhances operational effectiveness. Moreover, ESG performance has a negative impact on the smallest firms' Tobin's Q and ROA while having a significant impact on large enterprises.

Environment, Social and Government (ESG) Score and Firm Performance

Investors are becoming more interested in companies that follow ESG principles since they are far more sustainable, have more resources for long-term development, spend time optimizing their activities, and have superior financial performance (Halid et al., 2023). Sustainability, ethics, and corporate governance issues are all becoming part of the firm's non-financial measures. As a result, firms are focusing more on improving and reporting their ESG ratings. The ESG score's environmental, social, and governance pillars are divided into numerous areas. The ESG score, which is the average of all assessment ratings for each pillar, represents the company's achievement in terms of sustainability. It measures the company's efficiency and performance based on publicly available data. When a company's ESG score is higher, it performs better in the long run (Melinda & Wardhani, 2020).

A study by Habib and Mourad (2023) on 406 US firms that adopted ESG practices during the COVID-19 crisis revealed that ESG reporting was found to positively impact business performance. The findings show that companies with more advanced ESG practices have better performance measures. Carnini Pulino et al. (2022) conducted the study using a panel regression analysis and a sample of the largest Italian-listed companies over a 10-year period (2011 to 2020). Her study discovered a positive relationship between ESG disclosure and firm performance as measured by Earning Before Interest and Tax (EBIT). The findings support the link between ESG disclosure and corporate performance. Crisóstomo et al. (2011) evaluated the relationship between CSR, company value, and financial performance of Brazilian firms from 2001 to 2006. The findings implied that CSR destroys value in Brazil, since a substantial negative link between CSR and business value was discovered. Aligned with Demiraj et al's. (2023) study, it analyzed 48 publicly traded companies in the European tourism industry with ESG scores from 2010 to 2019. According to the findings, ESG scores negatively correlated to firm performance as assessed by ROA.

Deswanto and Siregar (2018) investigated the relationships between environmental information disclosure and financial performance, environmental performance, and corporate value using a sample of 211 companies listed on the Indonesian stock exchange between 2012 and 2014. Their findings found that environmental disclosure had no effect on financial performance. Furthermore, research showed that environmental performance had a favorable impact on environmental information disclosure. However, environmental information disclosure had no influence on company value and does not mediate the relationship between the effects of financial and environmental performance on firm value. Kalia and Aggarwal (2023) studied 468 health-care enterprises for the fiscal year of 2020 from Thomson Reuters' data to obtain ESG statistics. The findings showed that the relationship between ESG score and firm performance cannot be generalized. The findings suggested that ESG activities had a beneficial impact on the firm performance of healthcare companies in developed economies; however, this link was negative or inconsequential in emerging economies. In addition, Malarvizhi and Matta (2016) conducted research in India on the relationship between environmental disclosure and company performance. They also found no association between the level of environmental disclosure and company performance.

Mixed findings were found between ESG disclosure and firm performance. Hence, the current study intended to examine the relationship between ESG scores and firm performance among the top 100 companies in Malaysia. The following first hypothesis was constructed:

H1: There is a significant relationship between ESG scores and firm performance.

Environment, Social and Government (ESG) Controversial and Firm Performance

Even with the increased focus on environmental, social, and governance (ESG) practices and disclosures, little is focused on the financial effects of poor social performance. Hence, this study also investigated the impact of

ESG controversies on firm performance measured by Tobin's Q, ROA, and ROE. A few types of ESG controversies are environmental controversies including biodiversity matters, spills, pollution, etc.; social controversies are those concerning health and safety, diversity, etc.; and governance controversies are those concerning executive board compensation, insider dealings, etc. Prior studies revealed mixed results of ESG controversies on firm performance.

Ting et al. (2020) examined the impacts of the ESG Score and ESG Controversies on valuation effects using ROE, Tobin's Q, and P/E ratio on sample of emerging market firms and developed market firms. The study found that firms with ESG controversies adversely affect market valuation. The ESG Score was positively related to the valuation measure of ROE and Tobin's Q in which the finding was consistent with Kim and Kim (2014). Ting et al. (2020) clarified how sustainability activities may increase valuation. The Tobin's Q and P/E ratios as stock market value indicators, were inversely correlated with the ESG controversy score. Greater company-generated controversies may have a negative impact on a company's stock market valuation. Markets are skeptical of the controversies that these companies have caused. Aouadi and Marsat (2018) used data from more than 4000 enterprises in 58 countries over the 2002–2011 time period to analyze the ESG controversies and firm value. The authors discovered that ESG controversies contributed positively to the firm value. Nevertheless, there was a negative association when ESG and Corporate Social Performance (CSP) are combined; to conclude that enterprises can raise their visibility through CSP, which will materialize in higher valuation and more profitability.

Firms constrained by high levels of ESG controversies are less likely to engage in higher ESG practices, although such controversies have a positive mediating impact on the relationship between financial performance shortfalls and ESG performance (DasGupta, 2022). This shows how the negative impact of ESG scandals on companies with ESG policies can stifle such managerial action and perhaps further undermine the credibility of the organisation, along with the likelihood of future operational failures. So, in order to head off any potential concerns of bankruptcy in the future, firm management should act more quickly when handling these controversies.

Employing a dataset of 1.356 companies from 22 countries in Asia to represent the Asian market from 2014 to 2018, Melinda and Wardhani (2020) found that the ESG index score and controversy score were statistically significant, affecting the firms' value measured by Tobin's Q. Surprisingly, the ESG controversy score indicated a positive relationship with the company value. The result implied that controversies provided a positive signal to the investor because controversies could signal the public of companies' willingness to have transparency and accountability. Therefore, based on the above discussion, the present study proposed to test the relationship between ESG controversies and firm performance, leading to the construction of the second hypothesis:

H2: There is a significant relationship between ESG controversies and firm performance.

METHODOLOGY

Sample Selection

This study focused on the top 100 Malaysian firms based on their market capitalisation as of 31 December 2021 as these firms have better ESG disclosure. Moreover, our study only focused on the top 100 firms because Minutolo et al. (2019) discovered that ESG harms small firms' market capitalisation, but a positive effect can be seen in large firms. After excluding insufficient data and extreme outliers, the final sample of 45 firms (180 firm-year observations) during 2018 – 2021 was taken into observation. We compiled the ESG score, which included the environment pillar[1],

1 The environmental pillar measures a company's impact on living and non-living natural systems, including the air, land, and water, as well as complete ecosystems. It reflects how well a company uses best management practices to avoid environmental risks and capitalise on environmental opportunities in order to generate long-term shareholder value.

social pillar[2], governance pillar[3], and ESG Controversial[4], represented as a percentage value. The scoring method was based on the values generated from the Eikon Datastream. Then, financial data was also gathered from the Eikon Datastream in Ringgit Malaysia.

Measurements of Variables

Prior studies have used common variables to examine firm performance. From the accounting and finance perspective, prior studies have used market-based performance proxied by Tobin's Q (Fu et al., 2016) and accounting-based performance proxied by Return on Assets (ROA) and Return on Equity (ROE) (Amran & Che Ahmad, 2011; Ma & Ma, 2017; Rouyer, 2016) consistent with prior studies in ESG and firm performance that used Tobin's Q, ROA, and ROE as the measurement of firm performance (Minutolo et al, 2019; Ting et al, 2020; Melinda & Wardhani, 2020). Thus, we robustly examined firm performance based on Tobin's Q, ROA, and ROE. We measured Tobin's Q by the ratio of market capitalization plus total liabilities over total assets; ROA was measured by net income over total assets; ROE was measured by net income over total equities.

The independent variables in this study were ESG Score (ESG SCORE), the environment pillar (ENV_P), the social pillar (SOCIAL_P), the governance pillar (GOV_P), the ESG Controversial (ESG_VRS). The data on the total ESG score and individual ESG were gathered from the Eikon Datastream, which represented the total value of the ESG score and individual total score. We also controlled company size (FSIZE), company growth (GROWTH), and company liquidity (CR). Company size was measured by the natural logarithmic transformation of total assets (FSIZE); company growth was measured by changes in net income over last year's income (GROWTH); company liquidity was proxied by the current ratio

2 The social pillar measures a company's capacity to generate trust and loyalty with its workforce, customers, and society through its use of best management practices. It reflects the company's reputation and the health of its license to operate, which are key factors in determining its ability to generate long-term shareholder value.

3 The corporate governance pillar measures a company's systems and processes, which ensure that its board members and executives act in the best interests of its long-term shareholders. It reflects a company's capacity, through its use of best management practices, to direct and control its rights and responsibilities through the creation of incentives, as well as checks and balances in order to generate long-term shareholder value.

4 ESG controversies category score measures a company's exposure to environmental, social and governance controversies and negative events reflected in global media.

measured by current assets over current liabilities (CR). The regression models were as follows:

$$\text{Tobin's Q} = \beta 0 + \beta 1\ \text{ESGSCORE} + \beta 2\ \text{ESG\_VRS} + \beta 3\ \text{FSIZE} + \beta 4\ \text{GROWTH} + \beta 5\ \text{CR} + \varepsilon \quad (1)$$

$$\text{ROA} = \beta 0 + \beta 1\ \text{ESGSCORE} + \beta 2\ \text{ESG\_VRS} + \beta 3\ \text{FSIZE} + \beta 4\ \text{GROWTH} + \beta 5\ \text{CR} + \varepsilon \quad (2)$$

$$\text{ROE} = \beta 0 + \beta 1\ \text{ESGSCORE} + \beta 2\ \text{ESG\_VRS} + \beta 3\ \text{FSIZE} + \beta 4\ \text{GROWTH} + \beta 5\ \text{CR} + \varepsilon \quad (3)$$

RESULTS AND DISCUSSION

Descriptive Analysis

Table 1 reports the descriptive statistics for all the variables. The results in Panel A of Table 1 show the proxies of dependent variables. The results show that the average market-based performance proxied by Tobin's Q was 2.3225 ranging from 0.4896 to 14.0222. Meanwhile, the average accounting-based performance proxied by ROA was 0.0664, ranging from -0.1484 to 0.7896; ROE was 0.2059 ranging from -0.6847 to 2.2888. The negative value of ROA and ROE were due to the reported negative net income for the current period. The negative net income was due to the recovery stages after the COVID-19 outbreak.

The independent variables were reported in Panel B of Table 1. The average total ESG for the top 100 Malaysian firms was 52.6464%, with a total score ranging from 0.5394% to 90.13%. The findings revealed that a few firms from the top 100 companies still scored a lower value for ESG disclosure. We also collected information on the individual ESG score, which was represented by the environmental pillar (ENV_P), social pillar (SOCIAL_P), governance pillar (GOV_P), and ESG controversies (ESG_VRS) to show in details the total score for the individual ESG scores. The findings showed that the average ENV_P was 50.15% with a total score ranging from 0.18% to 90.25%; average SOCIAL_P was 61.305% with a total score ranging from 0.5485% to 97.34%; average GOV_P was 52.51% with a total score ranging from 0.2212% to 98.72%; average ESG_VRS was 100 with ranging from 11.46% to 100. The individual score revealed that the highest was SOCIAL_P and GOV_P indicating that the top 100 firms invested and disclosed more on social and governance.

The control variables are reported in Panel C of Table 1. The average firm size (FSIZE) was 7.2578, with a range size ranging from 4.4516 to 8.9478. The average firm growth was 0.0289 with a range value from -0.6419 to 1.2923. The negative value was due to the drop of the reported net income for the current year compared to the last year. The firm's liquidity was measured by current assets (CR) with the average value of 1.5593 ranging from 0.3024 to 11.1987. The average current assets of the sample firms indicated that some firms reported lower liquidity as their current ratio below the acceptable value of 2.0.

Table 1: Descriptive Statistics

	Mean	Median	Min	Max	SD
PANEL A					
Tobin'S Q	2.3225	1.2535	0.4896	14.0222	2.4714
ROA	0.0664	0.0381	-0.1484	0.7896	0.1059
ROE	0.2059	0.0956	-0.6847	2.2888	0.3972
PANEL B					
ESGSCORE	52.6464	55.605	0.5394	90.13	21.4123
ENV_P	46.8708	50.15	0.18	90.25	23.5326
SOCIAL_P	56.9025	61.305	0.5485	97.34	22.1351
GOV_P	50.2376	52.51	0.2212	98.72	24.8992
ESG_VRS	96.2184	100	11.46	100	13.8212
PANEL C					
FSIZE	7.2416	7.2578	4.4516	8.9478	0.7976
GROWTH	0.4025	0.0289	-0.6419	1.2923	0.2200
CR	1.9313	1.5593	0.3024	11.1987	1.5699

Note: *Tobin's Q is the ratio of market capitalisation plus total liability over the total assets; ROA is the ratio of net income over total assets; ROE is the ratio of net income over total equity; ESGSCORE is the total score of environment, social, and governance; ENV_P is the total value of environmental pillar (%); SOCIAL_P is the total social pillar (%); GOV_P is the total governance pillar (%); ESG_VRS is the total value of ESG controversies (%); FSIZE is the natural algorithm of total assets; GROWTH is the ratio of current income minus last year income over last year income; CR is the ratio of current assets over current liabilities.*

Correlation Analysis

Table 2 reports the correlation analysis of the variables. The tabulated results showed that the correlation between the variables was relatively low among the individual ESG and control variables. However, the highest correlation was reported between ESGSCORE and ENV_P, SOCIAL_P, and GOV_P with a value of 0.729, 0.931, and 0.850, respectively. Therefore, we ran the analysis separately between ESGSCORE and individual ESG to avoid multicollinearity issues.

The results showed that independent variables of ESGSCORE, ENV_P, and SOCIAL_P were positively correlated with the dependent variables (Tobin's Q, ROA, and ROE). The results provided an early signal that ESG disclosure increased the firm performance. However, the GOV_P and ESG_VRS did not correlate with the dependent variables, except for Tobin's Q. The control variables of firm size (FSIZE) and current ratio (CR) showed a negative correlation with the dependent variables. The findings discovered that firm size and firm liquidity were not factors that enhanced market and accounting-based performance.

Table 2: Pearson Correlation Analysis

Variables	TOBINQ	ROA	ROE	ESGSCORE	ENV_P	SOCIAL_P	GOV_P	ESG_VRS	FSIZE	GROWTH	CR
TOBINQ	1.000										
ROA	.661***	1.000									
ROE	.681***	.717***	1.000								
ESGSCORE	.234***	.193***	.208***	1.000							
ENV_P	.175**	.094	.110	.729***	1.000						
SOCIAL_P	.307***	.286***	.252***	.931***	.590***	1.000					
GOV_P	.062	.043	.107	.850***	.445***	.711***	1.000				
ESG_VRS	.014	-.034	.010	-.211***	-.211***	-.161**	.074	1.000			
FSIZE	-.475***	-.409***	-.325***	-.018	-.124*	-.093	.074	-.020	1.000		
GROWTH	.119*	.499***	.178***	.063	-.073	.106	.038	-.011	-.091	1.000	
CR	-.185**	-.022	-.203***	-.095	.025	-.009	-.239***	.062	.086	0.117	1.000

Note: *The reported t-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively. TOBINQ is the ratio of market capitalisa plus total liability over the total assets; ROA is the ratio of net income over total assets; ROE is the ratio of net income over total equity; ESGSCORE is the total score of environment, social, governance (%); ENV_P is the total value of environmental pillar (%); SOCIAL_P is the total social pillar (%); GOV_P is the total governance pillar (%); ESG_VRS is the total value of I controversies (%); FSIZE is the natural algorithm of total assets; GROWTH is the ratio of current income minus last year income over last year income; CR is the ratio of current assets current liabilities.*

Empirical Regression Results

Table 3 presents the regression estimates for the effects of the ESG score and ESG controversies on firm performance. First, we estimated the effects of the total ESG score on firm performance, and the results demonstrated that ESGSCORE showed a positive and significant relationship on Tobin's

Q, ROA, and ROE. This result revealed that ESGCORE enhanced firm performance as the ESG attracted investors through transparency (Minutolo et al., 2019). Increasing levels of transparency may increase business value and enhance operational effectiveness. Melinda and Wardhani (2020) also found that firms with higher ESG scores can perform better in the long run. Our findings are consistent with prior studies by Halid et al. (2023), Habib and Mourad (2023), and Carnini Pulino et al. (2022) as firms with higher ESG score has better-managed resources (Resource Based View) which lead to achieving competitive advantage, outperform competitors in the marketplace, and superior performance (Tobin's Q, ROA, and ROE). Moreover, ESG transparency is able to protect stakeholder interests (Stakeholder Theory) because it can be used as a tool to satisfy the interests of many stakeholders. This finding supports our hypothesis (H1).

However, ESG controversies (ESG_VRS) showed a positive relationship and was significant at 10% with Tobin's Q while with the accounting-based performance of ROA and ROE, ESG_VRS showed an insignificant relationship. Our results were different compared to a prior study by Ting et al. (2020) that found ESG controversies to have an adverse effect on firm performance. The positive relationship between ESG_VRS and Tobin's Q was due to the ESG controversies' unexpected positive impact between financial performance shortfalls and ESG performance (DasGupta, 2022). This showed how the negative impact of ESG scandals on companies with ESG policies can stifle such managerial action and perhaps further undermine the credibility of the organization, along with the likelihood of future operational failures. This is consistent with Melinda and Wardhani's (2020) that also found the ESG controversy score's showing a surprisingly positive relationship with company value. The result implies that controversies provide a positive signal to investors because controversies could signal to the public of companies' willingness to have transparency and accountability.

For the control variables, the results showed that FSIZE had a negative and significant relationship with Tobin's Q, ROA, and ROE. The findings showed contradicting results due to the firm's size being measured by the total assets using the historical value compared to the Tobin's Q, ROA, and ROE that were measured by the market price. Our result is consistent with Demiraj et al. (2023) who also found a negative relationship between firm size and firm performance. Moreover, the current ratio (CR) also showed a negative and significant relationship at 10% and 5% on Tobin's Q and ROE, respectively. The findings revealed that a firm's liquidity provides an inverse relationship with the firm performance. However, as expected, firm growth (GROWTH) showed a positive and significant relationship at 1% and 5% on ROA and ROE, respectively. The finding revealed that firm growth increases accounting-based performance (ROA and ROE).

Table 3: Regression Result

	(1) Tobin's Q	(2) ROA	(3) ROE
Intercept	13.3461	0.4503	1.4033
	6.70***	5.52***	3.99***
ESGSCORE	0.0682	0.0021	0.0098
	6.64***	4.91***	5.39***
ESG_VRS	0.0183	0.0002	0.0028
	1.61*	0.39	1.38
FSIZE	-2.2764	-0.0731	-0.2720
	-9.09***	-7.12***	-6.15***
GROWTH	0.8656	0.2223	0.2812
	1.31	8.20***	2.41**
CR	-0.1843	-0.0009	-0.0422
	-1.83*	-0.22	-2.37**
Adjusted R^2	37.45	42.53	26.59
N	180	180	180

Note: *The reported t-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively. Tobin's Q is the ratio of market capitalisation plus total liability over the total assets; ROA is the ratio of net income over total assets; ROE is the ratio of net income over total equity; ESGSCORE is the total score of environment, social, and governance (%);ESG_VRS is the total value of ESG controversies (%); FSIZE is the natural algorithm of total assets; GROWTH is the ratio of current income minus last year income over last year income; CR is the ratio of current assets over current liabilities.*

Additional Analysis

The main analyses revealed that the total ESGSCORE could increase market-based performance (Tobin's Q) and accounting-based performance (ROA and ROE). Therefore, we further examined which ESG pillars were associated with firm performance. As such, three ESG pillars were gathered from the Eikon Datastream, namely the environmental pillar (ENV_P), the social pillar (SOCIAL_P), and governance pillar (GOV_P). The following regression models were constructed:

$$\text{Tobin's Q} = \beta0 + \beta1\ ENV\_P + \beta2\ SOCIAL\_P + \beta3\ GOV\_P + \beta4\ ESG\_VRS + \beta5\ FSIZE + \beta6\ GROWTH + \beta7\ CR + \varepsilon \tag{4}$$

$$ROA = \beta0 + \beta1\ ENV\_P + \beta2\ SOCIAL\_P + \beta3\ GOV\_P + \beta4\ ESG\_VRS + \beta5\ FSIZE + \beta6\ GROWTH + \beta7\ CR + \varepsilon \tag{5}$$

$$ROE = \beta0 + \beta1\ ENV\_P + \beta2\ SOCIAL\_P + \beta3\ GOV\_P + \beta4\ ESG\_VRS + \beta5\ FSIZE + \beta6\ GROWTH + \beta7\ CR + \varepsilon \tag{6}$$

Table 4 shows that the environmental pillar (ENV_P) was insignificant with firm performance. However, the social pillar (SOCIAL_P) showed a positive and significant relationship at 1% on the market and accounting-based performance. This finding revealed that the firm's investment and disclosure on society were able to enhance firm performance. Accordingly, it is consistent with Carnini Pulino et al. (2022) who also discovered that social pillars had a positive impact on firm performance as an investment, in which the social pillar protects stakeholder's interests. Contrastingly, the governance pillar (GOV_P) showed a negative and significant relationship at 1% on the Tobin's Q and ROA. A contradicting finding was found between GOV_P and firm performance due to agency problems arising among shareholders and managers. Furthermore, good governance indirectly improves firm performance through ESG investment and disclosure. In a similar tone, Carnini Pulino et al. (2022) also found no significant impact between governance pillar and firm performance among the largest Italian-listed firms.

The control variables showed that the FSIZE was negative and significant at 1% on Tobin's Q, ROA, and ROE. Then, the current ratio (CR) improved from the main analysis, showing a negative and significant relationship at 1% for the Tobin's Q and ROE, respectively. However, firm growth (GROWTH) held the same finding from the main analysis, showing a positive and significant relationship at 1% and 5% on ROA and ROE, respectively. Our additional findings offer evidence of the ESG pillars on market and accounting-based performance in Malaysia since Carnini Pulino et al. (2022) and Demiraj et al. (2023) only focused on the effects of ESG on the ROA and EBIT.

Table 4: Regression Result of ESG Pillar

	(4) Tobin's Q	(5) ROA	(6) ROE
Intercept	12.4243	0.4253	1.3152
	6.59***	5.46***	3.75***
ENV_P	0.0054	-0.0001	0.0002
	0.67	-0.37	0.15
SOCIAL_P	0.0911	0.0032	0.0114
	7.80***	6.71***	5.23***
GOV_P	-0.0290	-0.0010	-0.0022
	-3.24***	-2.84***	-1.31
ESG_VRS	0.0104	-0.0001	0.0017
	0.97	-0.29	0.87
FSIZE	-2.0610	-0.0667	-0.2469
	-8.87***	-6.94***	-5.71***
GROWTH	0.6725	0.2105	0.2499
	1.06	8.07***	2.13**
CR	-0.3423	-0.0060	-0.0580
	-3.48***	-1.47	-3.17***
Adjusted R^2	45.42	49.06	29.04
N	180	180	180

Note: *The reported t-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively. Tobin's Q is the ratio of market capitalisation plus total liability over the total assets; ROA is the ratio of net income over total assets; ROE is the ratio of net income over total equity; ESGSCORE is the total score of environment, social, and governance (%); ENV_P is the total value of environmental pillar (%); SOCIAL_P is the total social pillar (%); GOV_P is the total governance pillar (%); ESG_VRS is the total value of ESG controversies (%); FSIZE is the natural algorithm of total assets; GROWTH is the ratio of current income minus last year income over last year income; CR is the ratio of current assets over current liabilities.*

CONCLUSION

This study examined the effects of ESG disclosure and firm performance among the top 100 Malaysian publicly-listed firms. A battery of tests indicated that ESG score boosted firm performance as ESG disclosure attracted investors through transparency; a high level of transparency could increase business value and enhance operational effectiveness. Furthermore, higher ESG scores can perform better in the long run because higher ESG scores have better resource management (Resource Based View) and ESG transparency that is able to protect stakeholder interest (Stakeholder Theory). This evidence suggestively supports the effectiveness of the initiative taken by the regulatory bodies to enhance ESG disclosure, such as the Sustainable Development Goals (SDG).

However, our finding offers a new explanation of the ESG controversies and firm performance (Tobin's Q). Our findings revealed a positive effect between ESG controversies and firm performance and indicated that controversies provide a positive signal to the investor. This revealed that investors respond quickly to the bad and good news in the efficient market hypothesis (EMH) as the ESG controversy score gives a positive effect on the market-based performance (Tobin's Q). The result implied that controversies provide a positive signal to the investor because it can signal the public of companies' willingness to have transparency and accountability.

Our results should be interpreted with caution despite the use of various analyses. Our sample was limited to the available data and only focused on the top 100 Malaysian firms. The effects of ESG disclosure on firm performance should extend beyond all publicly listed or non-listed firms. The reason is due to the contradictory findings found by Minutolo et al. (2019) on the effects of ESG between the largest and smallest S&P 500 firms. Despite this limitation, our study provides useful insights for investors and policymakers to understand the effects of ESG on market and accounting-based performance. To make further progress, we encourage more research on the impact of ESG during and after the COVID-19 pandemic as it may provide different findings. In summary, this study adds to the growth of knowledge and pieces of literature on the ESG and firm performance nexuses.

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